

WHAT WE CLAIM:

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1) A filtration device comprising one or more filter layers and one or more openings, said openings having one or more sealing means for establishing a liquid tight seal around each of the one or more openings, said means being an elastomeric material selected from the group consisting of thermoplastics, thermoplastic elastomers, thermoset elastomers and rubber, natural and synthetic.

2) A feed screen for a filter device comprising a screen containing a plurality of openings, said screen having a relatively uniform thickness and a series of two or more ports along at least of its peripheral edges, at least one of said ports having a molded gasket which has a thickness greater than that of the screen and said thickness of said gasket extends from at least one side of said screen.

3) The device of claim 1 wherein the sealing means is in a form selected from the group consisting of a gasket, an O-ring and a sealing device.

4) The screen of claim 2 wherein the screen is formed of an elastomeric material selected from the group consisting of thermoplastics, thermoplastic elastomers, thermoset elastomers and rubber, natural and synthetic.

5) The screen of claim 2 wherein the gasket extends at least 0.001 inch above at least one side of the screen.

6) The screen of claim 2 wherein the gasket extends at least 0.002 inch above at least one side of the screen.

7) The screen of claim 2 wherein the gasket extends at least 0.005 inch above at least one side of the screen.

8) The screen of claim 2 wherein the gasket extends from about 0.001 to about 0.015 inch above at least one side of the screen.

9) The screen of claim 2 wherein the gasket is formed by injection molding.

10) A filtration module comprising at least one membrane layer, at least one feed screen layer and at least one filtrate screen, said at least one feed screen layer and said at least one filtrate layer having one or more ports formed in at least one of its edges and said layers being arranged on opposite sides of the membrane to insure fluid flows through a port on the feed screen layer into the feed screen layer, from the feed screen layer through the membrane and into the filtrate layer and through the one or more ports of the filtrate layer to an

exit from the module, wherein the one or more ports of the feed screen and filtrate layer contain a molded gasket which has a thickness greater than that of the screen and said thickness of said gasket extends from at least one side of said layer.

11) The module of claim 10 wherein the gasket extends from about 0.001 to about 0.015 inch above at least one side of the screen.

12) The module of claim 10 wherein the gasket extends from about 0.001 to about 0.015 inch above each side of the screen.

13) The module of claim 10 wherein the gasket extends from both sides of the screen.

14) The module of claim 10 wherein the gasket is formed of an elastomeric material selected from the group consisting of thermoplastics, thermoplastic elastomers, thermoset elastomers and rubber, natural and synthetic.

15) The module of claim 10 wherein gasket is formed by injection molding.

16) The module of claim 10 wherein the gasket is in a shape selected from the group consisting of a circle, oval and polygon.

17) The module of claim 10 wherein the gasket is in the shape of a polygon and the polygon is selected from the group consisting of triangles, rectangles, pentagons, hexagons, heptagons, octagons, nonagons and decagons.

18) The module of claim 10 wherein the height of the gasket is also used to vary the channel height of the feed screen.

19) The module of claim 10 wherein the height of the gasket is also used to vary the channel height of the filtrate layer.

20) The module of claim 10 wherein the module is capable of withstanding pressures of from about 50 to about 110 psi without leaking.

21) The module of claim 10 wherein the filter layer is made of a material selected from the group consisting of olefins, metallocene olefinic polymers, PFA, MFA, PTFE, polycarbonate, vinyl copolymers, polyamides, polyesters, cellulose, cellulose acetate, regenerated cellulose, cellulose composites, polysulphone, polyethersulphone, polyarylsulphone, polyphenylsulphone, polyacrylonitrile, polyvinylidene fluoride (PVDF), and blends thereof.

22) The module of claim 10 wherein one or more sealing rims is formed upon the surface of the endcap layer.

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23) The device of claim 1 wherein means is one or more structures formed on a surface of the device from a molded thermoplastic or thermoplastic elastomer.

24) The device of claim 1 wherein the sealing means is formed as a gasket.

25) The device of claim 1 wherein the sealing means is formed as an O-ring.

26) The device of claim 1 wherein the sealing means is formed as a sealing rim around at least a portion of the periphery of a surface of one or more of the device components.

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